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NOTES ON GEOGRAPHIC DISTRIBUTION

Range extension of *Neoporus superioris* (Balfour-Browne, 1944) (Insecta: Coleoptera) into Wyoming, USA

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ABSTRACT: We report a new state record of *Neoporus superioris* (Balfour-Browne) from Crook County, Wyoming, USA. This new record represents the most southern extent of *N. superioris* known.

Aquatic beetles are a large and diverse group, with ~12,600 described species worldwide (Jäch and Balke 2008). The predaceous diving beetles (family Dytiscidae) are the most specious family of aquatic beetles, with nearly 4,000 described species (Jäch and Balke 2008). The taxonomy for North American predaceous diving beetles is well studied (Larson *et al*. 2000) and the distribution of most species in the family are well known.

Within the family Dytiscidae, the genus *Neoporus* Guignot (subfamily Hydroporinae, tribe Hydroporini) includes 40 species of small to medium sized (2.2 to 6.4 mm) light colored beetles that inhabit slow moving permanent water with submerged vegetation (Larson *et al.* 2000). The genus is distributed across the Nearctic region, with most species occupying the Appalachian area of eastern North America. *Neoporus superioris* (Balfour-Browne 1944) was originally described in 1850 from Lake Superior as *Hydroporus sericeus* (LeConte 1850; Larson 1975). Balfour-Browne (1944) later renamed the species as *Hydroporus superioris*, which is now accepted as a junior synonym for *N. superioris* (Hilsenhoff 1995). *Neoporus superioris* is the most northern distributed species of *Neoporus* and is found as far north as Northwest Territories, with its southern range limit extending into Montana, South Dakota, Minnesota, and Wisconsin (Larson *et al.* 2000; Figure 1.). The previous southernmost collection of *N. superioris* was in St. Croix County, Wisconsin (44°58'2.5" N, 92°33'25.5" W; Wisconsin Insect Research Collection; Daniel Young, personal communication).

Ken Brown and Cody Bish collected specimens of *N. superioris* on 26 May 2011 in Prairie Creek where it intersects County Road 68 in Wyoming (44°43'32.6" N, 105°1'0.6" W; Little Missouri River Basin, Crook County; 1195 m; Figure 1). This fourth order stream was ~4 m wide and ~1 m in depth and was flowing quickly due to high spring runoff. We dip-netted in the emergent vegetation among rushes in the slower moving water along the stream edge. *Neoporus superioris* was not previously known from Wyoming, and the new locale represents the most southern extent of the distribution of this species. Several other water beetle taxa were collected along with *N. superioris*: *Berosus sp* (Hydrophilidae)., *Peltodytes callosus* LeConte and *Haliplus immaculicollis* Harris (Haliplidae), in addition to four other Dystiscidae species (*Agabus seriatus* Say, *Rhantus gutticollis* Say, *Laccophilus maculosus maculosus* Say, *Laccophilus maculosus decipiens* LeConte*)*. All these beetles were identified by Kelsey M. Brown following Larson *et al*. (2000). It is worth stressing that *N. superioris* is normally found in permanent lakes or slow flowing perennial streams with emergent vegetation such as rushes and sedges (Larson *et al.* 2000). Further, the benthic substrate was mainly composed of fine particles, which is typical of the habitat of *N. superioris* (Larson *et al.* 2000). The water chemistry analysis conducted at the sampling site revealed that the water had relatively high specific conductivity (1440 µS/cm) and pH was slightly

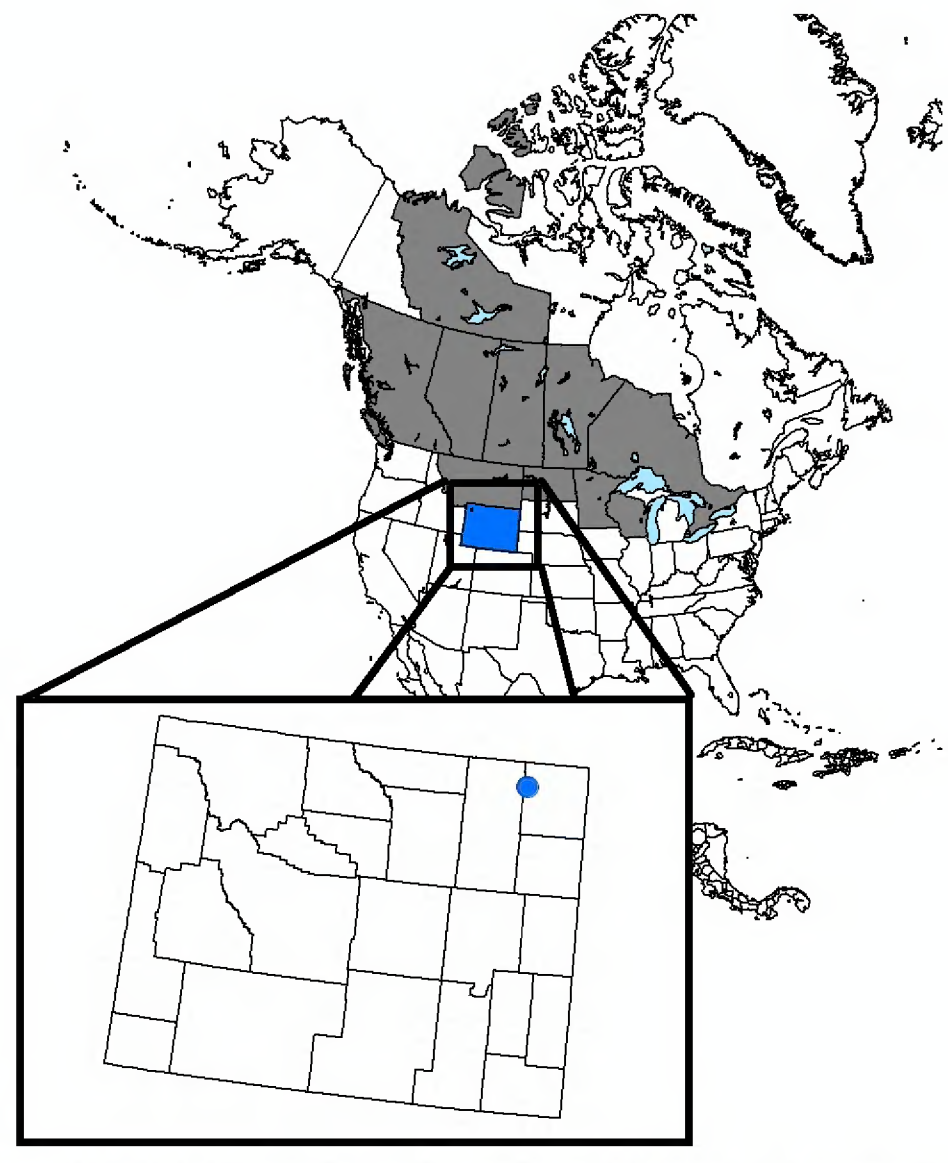

FIGURE 1. *Neoporus superioris* is known from 10 states and provinces (grey), and we report a new state record for Wyoming (blue). The inset map shows the new locale in Wyoming (blue dot).

alkaline (8.07). Voucher specimens of *N. superioris* collected for this study are housed in the Insect Museum at the University of Wyoming (Curator Dr. Scott Shaw).

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